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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,404	05/24/2006	Shingo Sakakibara	Q94716	2088
23373 7590 04/23/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
BUJE, NICOLE M				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,404

Applicant(s)

SAKAKIBARA ET AL.

Examiner

NICOLE M. BUIE

Art Unit

4145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05/24/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 20060524/20060817
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The following documents, JP 2000-212365, JP 2002-114884, JP 2002-114811, JP 2002-53620, JP 2003-1972731, JP 2001-288227, and JP 10-1585, cited in the information disclosure statement filed on 08/17/2006 have been already submitted and considered as part of the information disclosure statement filed on 05/24/2006.
2. The International Preliminary Report on Patentability and Written Opinion of the ISR cited in the information disclosure statement filed on 10/10/2006 have been considered, but will not be printed on any patent resulting from this application. Further, the references cited in the International Preliminary Report on Patentability and Written Opinion of the ISR, have been considered but, unless they were also cited on PTO-892 or cited and considered on another IDS, they will not be printed on any patent resulting from the instant application, because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1).

Abstract

3. The abstract of the disclosure is objected to because the abstract is not one single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. A proper dependent claim shall not conceivably be infringed by anything which would not also infringe the basic claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent

form, or rewrite the claim(s) in independent form. The limitation “for electric wire insulating” recited in claim 7 is broader than “for insulating a core wire having a diameter of 0.05 to 0.07 mm) recited in claim 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 5, 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahi Glass Co., Ltd. (JP 2002-114884, see machine translation).

Regarding claim 5, Asahi Glass Co., Ltd. (JP '884) discloses the fluororesin whose melt flow rate, at 372°C, 20-70 (g/10 min)(compared to exceeds 60 (g/10 minutes as required by said claim) [0009].

Regarding the specific melt flow rate of said claim, since the instant specification is silent to unexpected results, the specific melt flow rate is not considered to confer patentability to the claims. As the decomposition and fusing kneading nature are variables that can be modified by adjusting said melt flow rate, as evidenced by Asahi Glass Co., Ltd (JP '884) [0009], the precise melt flow rate would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed melt flow rate cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, melt flow rate to obtain desired prevention of decomposition and fusing kneading nature (*In re Boesch*, 617 F .2d. 272,205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

Regarding claim 12, Asahi Glass Co., Ltd (JP '884) discloses all of the claim limitations as set forth above. Additionally, Asahi Glass Co., Ltd (JP '884) discloses the fluororesin wherein the tetrafluoroethylene/perfluoro(alkyl vinyl ether) copolymer has a perfluoro(alkyl vinyl ether) unit content of 1.9 to 4.5 mole percent relative to all the monomer units ([007],[0024]).

Regarding claim 14, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Further Asahi Glass Co., Ltd discloses the fluororesin which is a fluororesin for electric wire insulating ([0019],[0036]).

Regarding claim 16, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Additionally, Asahi Glass Co., Ltd discloses an insulated electric wire comprising a core wire and an insulating material obtained by insulating molding of the fluororesin for said core wire ([0004],[0019],[0036]).

11. Claims 1-4, 6-8, 11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahi Glass Co., Ltd. (JP 2002-114884, see machine translation) in view of Asahi Glass Co., Ltd. (JP 2000-212365, see machine translation).

Regarding claim 1, the recitation that a fluororesin is to be used for insulating a core wire having a diameter of 0.05 to 0.07 mm or for electric wire insulating does not confer patentability to the claim since the recitation of an intended use does not impart patentability to otherwise old compounds or compositions. *In re Tuominen*, 671 F.2d 1359, 213 USPQ 89 (CCPA 1982).

Regarding said claim, Asahi Glass Co. (JP '884) discloses a fluororesin when used for insulating a core wire ([0004],[0020],[0026]) under the conditions of a resin temperature of 300-360°C (compared to 320 to 370°C as required by said claim) [0016]. However, Asahi Glass Co. does not disclose a fluororesin which does not cause cone break under the conditions of a resin temperature of 320 to 370°C, a drawdown rate [DDR] of 80 to 120, a draw rate balance [DRB] of 1.0, a wire coating speed of 700 feet/minute and an insulating thickness of 30 to 50 µm.

Regarding a fluororesin which does not cause cone break under said conditions recited in

said claims, Asahi Glass Co. (JP '884) does disclose a fluororesin substantially identical to the instant claim. Since Asahi Glass Co. (JP '884) does disclose a fluororesin substantially identical to the instant claim, the claimed properties of the fluororesin would have the same results as the prior art, absent objective evidence to the contrary.

Regarding the specific resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness of the said claim, since the instant specification is silent to unexpected results, the specific resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness is not considered to confer patentability to the claims. As the presence of decomposition, dry rough skin on surface of coating, durability of coating are variables that can be modified by adjusting said resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness, as evidenced by Asahi Glass Co. (JP '884) [0017] and Asahi Glass Co. (JP '365) [0003], the precise resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, critical shear rate, resin temperature, drawdown rate, draw rate balance, wire coating speed and insulating thickness to obtain desired surface, prevention of decomposition, and durability of the coating (*In re Boesch*, 617 F.2d. 272,205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine

skill in the art. (*In re Aller*, 105 USPQ 223).

Regarding claim 2, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Additionally Asahi Glass Co., Ltd (JP '884) discloses the fluororesin which comprises a tetrafluoroethylene/perfluoro(alkyl vinyl ether) copolymer [0005]. However, Asahi Glass Co., Ltd (JP '884) does not disclose a fluororesin having a critical shear rate, at 360°C, of 200 to 500 sec⁻¹.

Regarding claim 3, Asahi Glass Co., Ltd (JP '884) discloses the fluororesin which comprises a tetrafluoroethylene/perfluoro(alkyl vinyl ether) copolymer [0005]. However, Asahi Glass Co., Ltd (JP '884) does not disclose a fluororesin having a critical shear rate, at 360°C, of 200 to 500 sec⁻¹.

Regarding claim(s) 3, Asahi Glass Co., Ltd. (JP '884) disclose(s) all of the claim limitations as set forth above. Asahi Glass Co., Ltd. (JP '884) does disclose a critical shear rate, at 325°C, of 150 s⁻¹ ([0022],[0023]), but does not explicitly disclose the specific critical shear rate. Since the instant specification is silent to unexpected results, the specific critical shear rate is not considered to confer patentability to the claims. As the presence of dry rough skin on the surface of the coating is variable that can be modified by adjusting said critical shear rate, as evidenced by Asahi Glass Co., Ltd. (JP '365) [0003], the precise critical shear rate would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed critical shear rate cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, critical shear rate to obtain desired surface on the coating (*In re Boesch*, 617 F .2d. 272,205 USPQ 215 (CCPA

1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

Regarding claim 4, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Asahi Glass Co., Ltd. (JP '884) further discloses the fluororesin whose melt flow rate, at 372°C, 20-70 (g/10 min)(compared to exceeds 60 (g/10 minutes as required by said claim) [0009].

Regarding the specific melt flow rate of said claim, since the instant specification is silent to unexpected results, the specific melt flow rate is not considered to confer patentability to the claims. As the decomposition and fusing kneading nature are variables that can be modified by adjusting said melt flow rate, as evidenced by Asahi Glass Co., Ltd (JP '884) [0009], the precise melt flow rate would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed melt flow rate cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, melt flow rate to obtain desired prevention of decomposition and fusing kneading nature (*In re Boesch*, 617 F .2d. 272,205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

Regarding claims 6 and 11, Asahi Glass Co., Ltd (JP '884) discloses all of the claim limitations as set forth above. Additionally, Asahi Glass Co., Ltd (JP '884) discloses the fluororesin wherein the tetrafluoroethylene/perfluoro(alkyl vinyl ether) copolymer has a

perfluoro(alkyl vinyl ether) unit content of 1.9 to 4.5 mole percent relative to all the monomer units ([007],[0024]).

Regarding claims 7 and 13, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Further Asahi Glass Co., Ltd discloses the fluororesin which is a fluororesin for electric wire insulating ([0019],[0036]).

Regarding claims 8 and 15, Asahi Glass Co., Ltd. (JP '884) discloses all of the claim limitations as set forth above. Additionally, Asahi Glass Co., Ltd discloses an insulated electric wire comprising a core wire and an insulating material obtained by insulating molding of the fluororesin for said core wire ([0019],[0036]).

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahi Glass Co., Ltd. (JP 2002-114884, see machine translation) in view of Asahi Glass Co., Ltd. (JP 2000-212365, see machine translation) as applied to claims 1 and 8 above, and further in view of Matsui et al. (US 6,518,505).

Regarding claims 9 and 10, Asahi Glass Co., Ltd. (JP '884) disclose(s) all of the claim limitations as set forth above, but does not explicitly disclose the specific diameter of the core wire and thickness of insulating material.

Matsui et al. teaches an insulated electric wire using a fluororesin as the coating wherein the core wire has a diameter of 0.02 to 0.13 mm (Abstract, C3/L29-38, C4/L1-7, C11/L3-18). Matsui et al. further teaches the insulated electric wire wherein the insulating material has a thickness of 60 μm (compared to 10 to 60 μm as required by said claim) (C11/L13-18).

Matsui et al. and Asahi Glass Co., Ltd. (JP '884) are analogous art related to insulated

Art Unit: 4145

electric wire using a fluororesin as the coating (Abstract, C11/L3-18). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the core wire of Matsui et al. in the insulated electric wire of Asahi Glass, Co., Ltd (JP '884) and apply the specific thickness of the insulating material, for the purpose of improving the heat resistance, oil resistance, chemical resistance, electric insulation, flexibility of the coating, as evidenced by Asahi Glass Co., Ltd. (JP '884) [0004] to the ultrafine copper alloy wire of Matsui et al.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, (EST), and Fridays, 7:30am-4pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571)272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. M. B./
Examiner, Art Unit 4145
4/23/2008

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4145